

Fig. 1

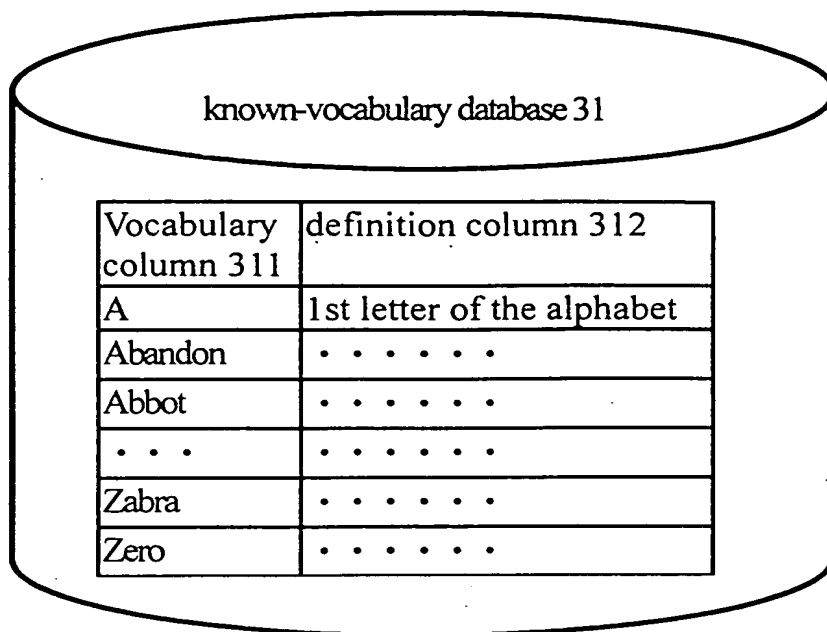


Fig. 2

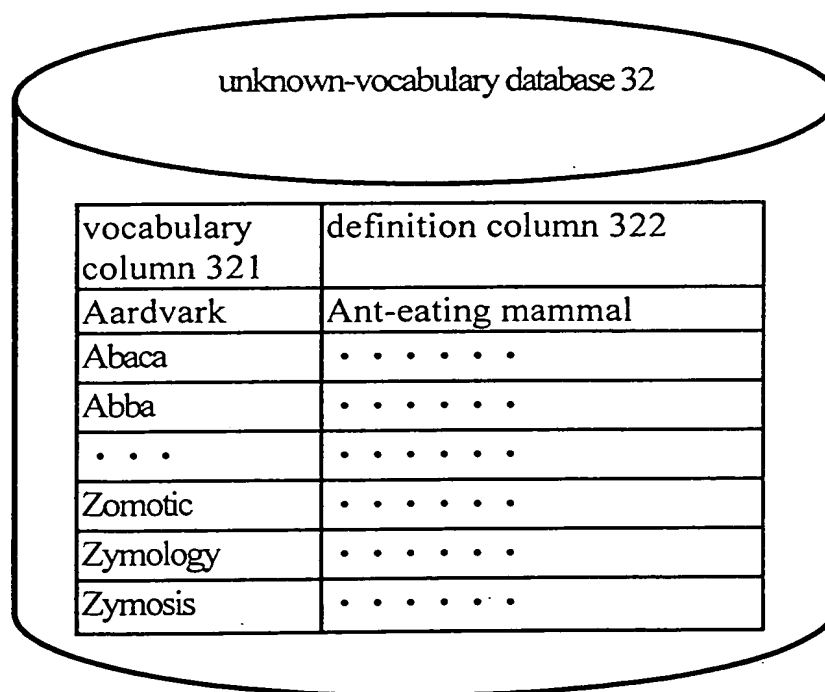


Fig. 3

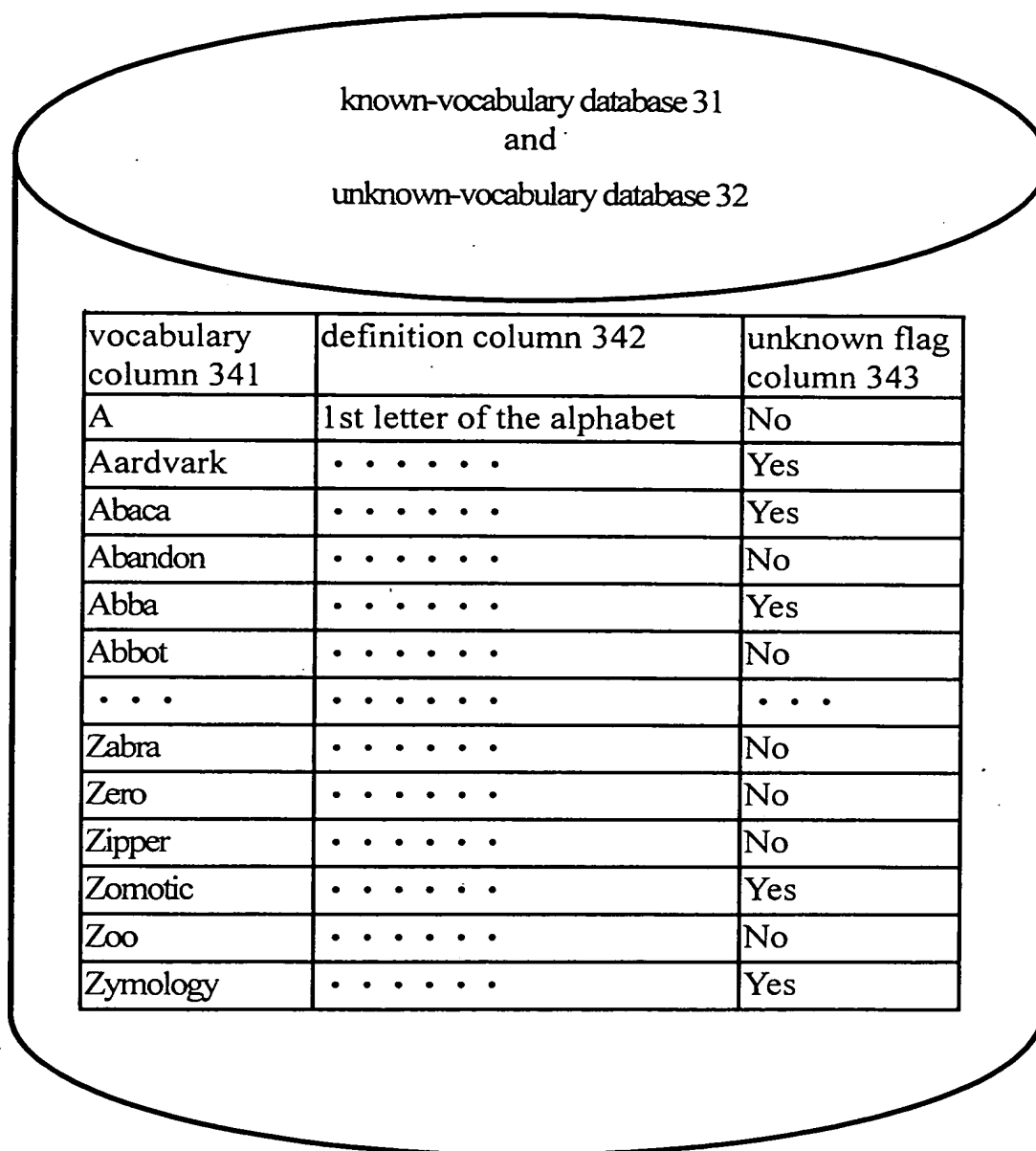


Fig. 4

known-vocabulary database 31
and
unknown-vocabulary database 32

vocabulary column 341	definition column 342	unknown flag column 343 (User 1)	unknown flag column 343 (User 2)
A	1st letter of the alphabet	No	No
Aardvark	Yes	Yes
Abaca	Yes	No
Abandon	No	No
Abba	Yes	Yes
Abbot	No	Yes
.
Zabra	No	Yes
Zero	No	No
Zipper	No	No
Zomotic	Yes	Yes
Zoo	No	No
Zymology	Yes	No
Zymosis	Yes	

Fig. 4A

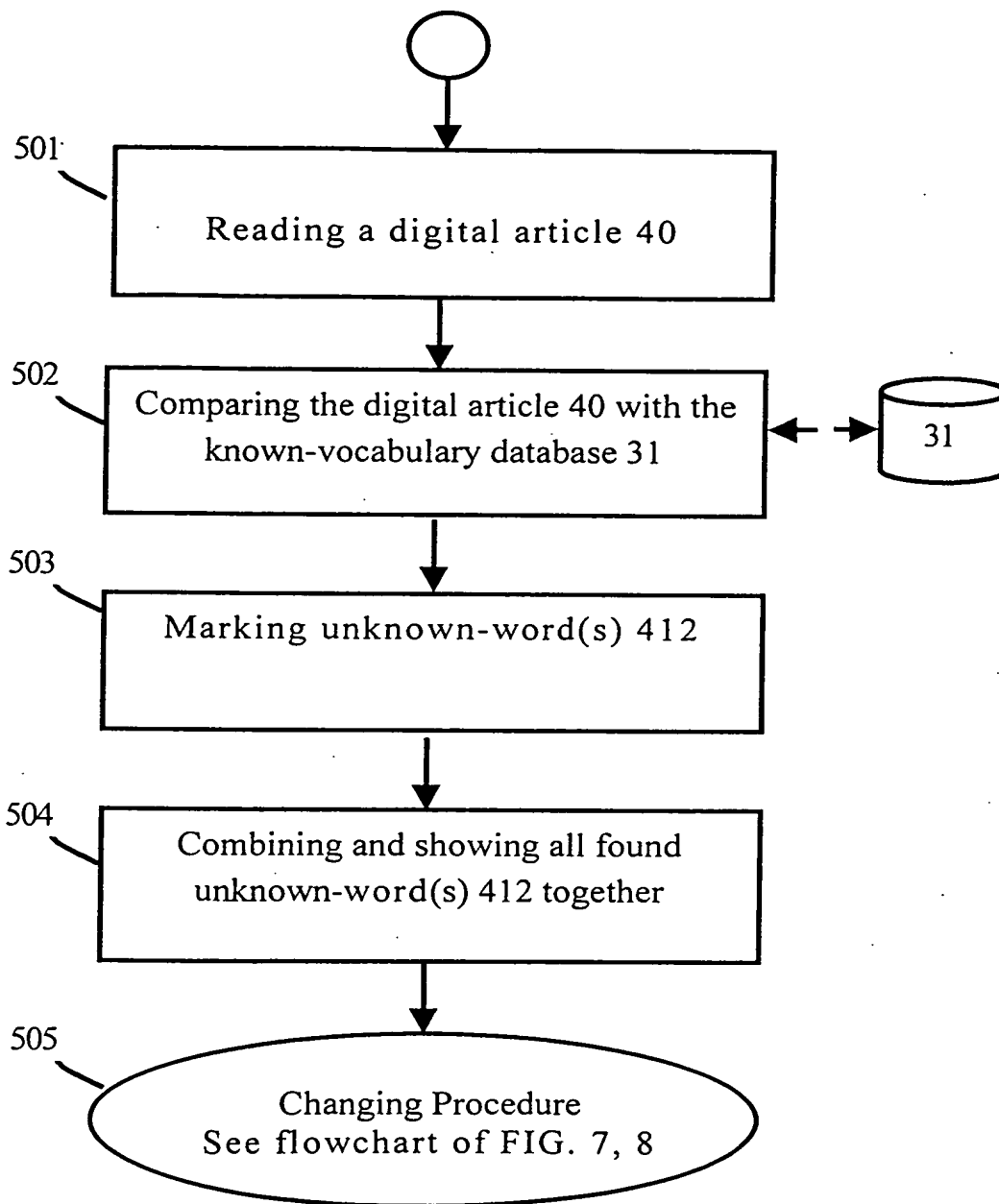


Fig. 5

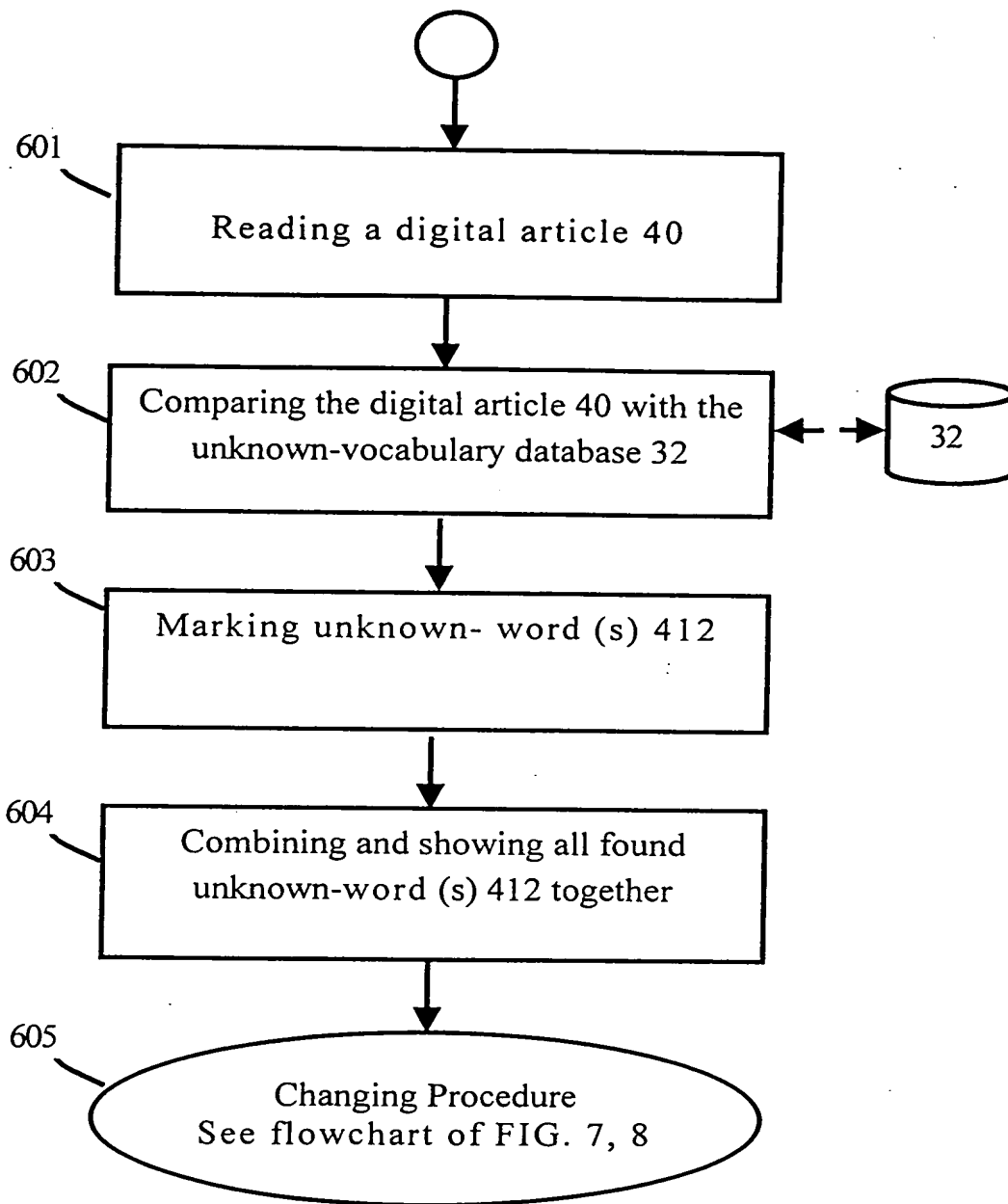


Fig. 6

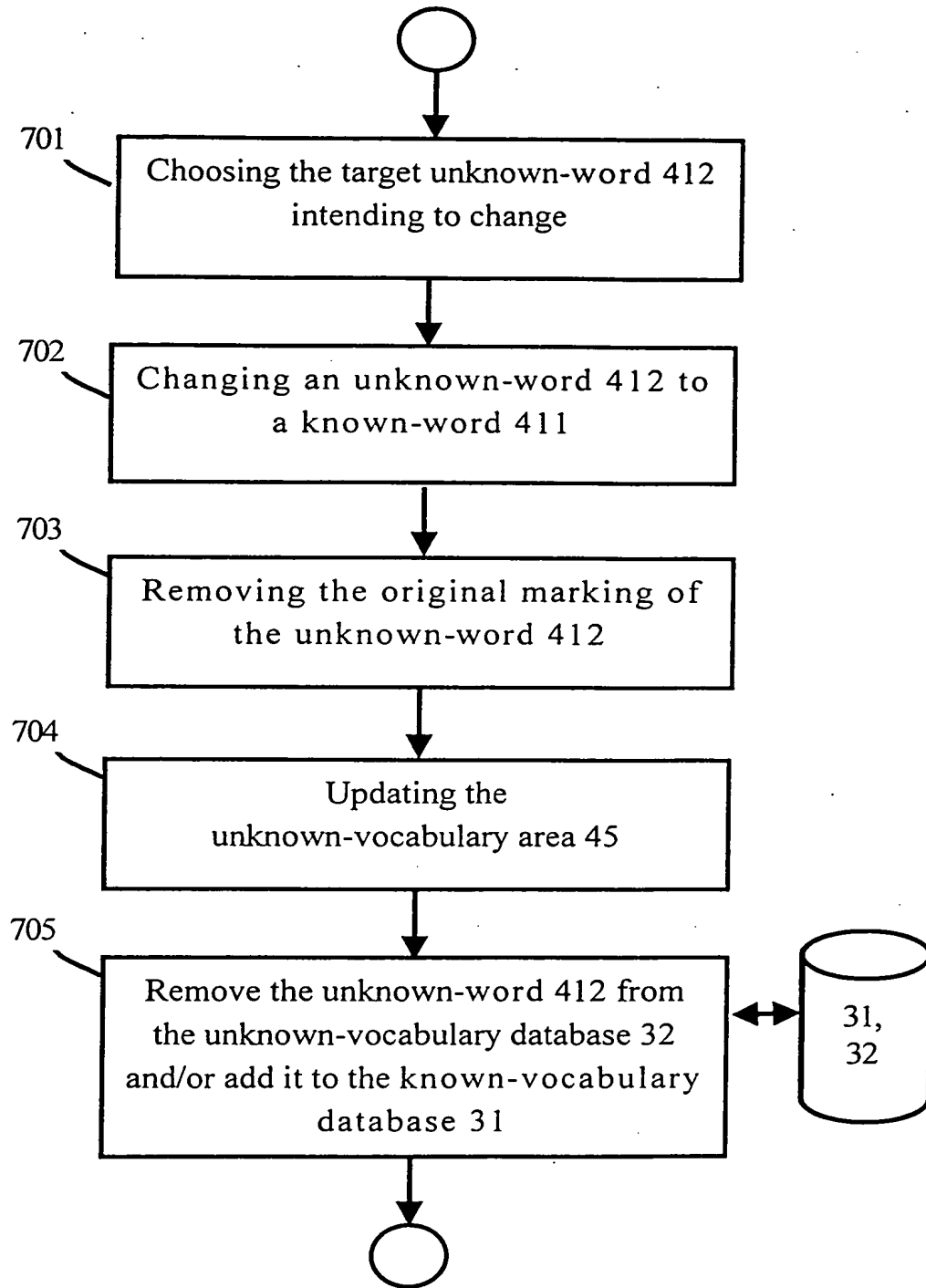


Fig. 7

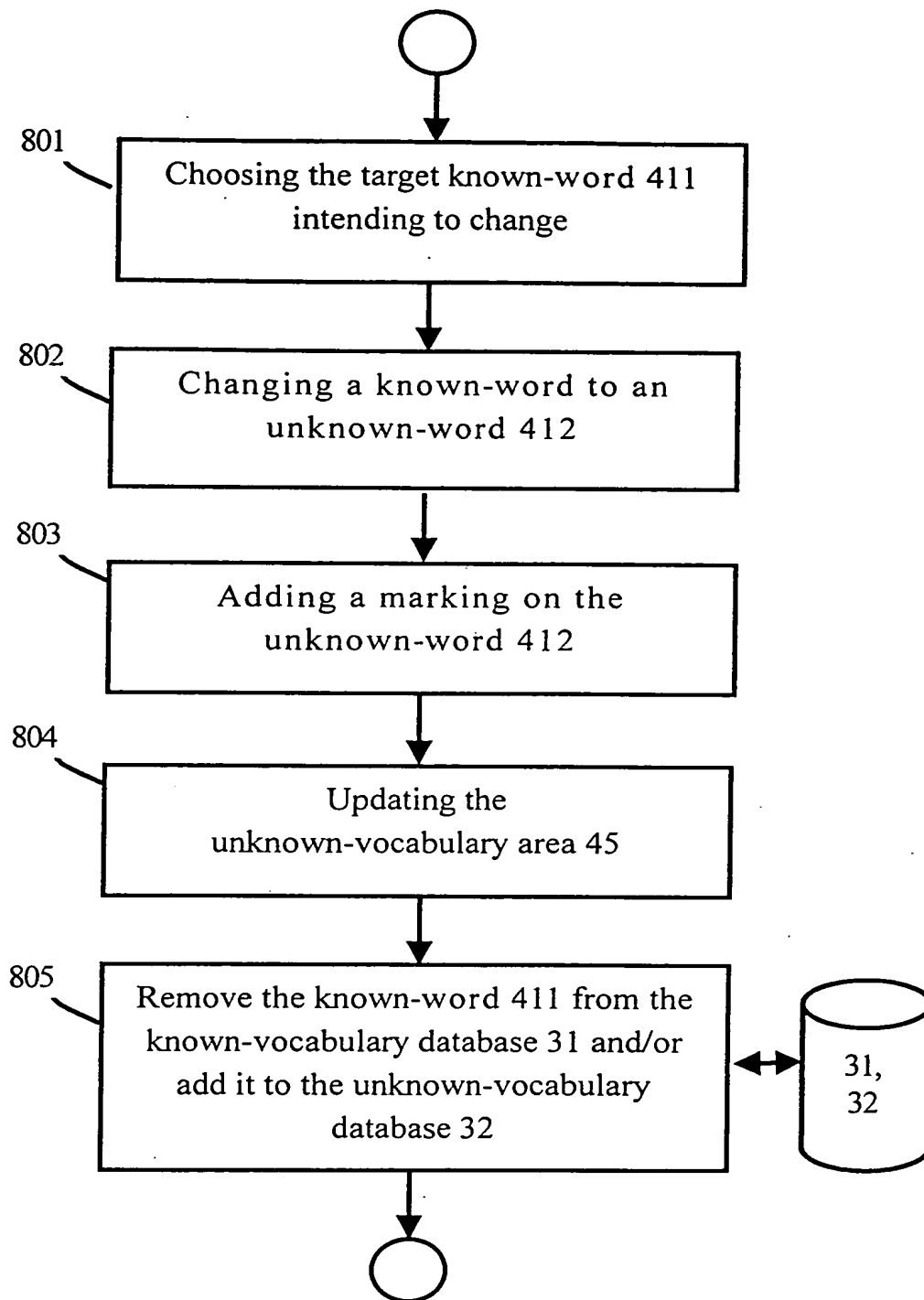


Fig. 8

New Vocabulary

Neurons: 412 nerve cell

Fundamental: basic, of central importance or necessity

Cognitive: act or process of knowing

Whiskers: long bristle or hair near an animal's mouth

Encoded: convert into code

45

40

How we distinguish a cat from a dog :

WASHINGTON (Reuters) -- It might not seem like being able to tell a cat from a dog is an important skill, but researchers said Thursday they had found monkeys have brain cells specifically assigned to the task and people may, too.

The team at the Massachusetts Institute of Technology found that individual neurons in the monkeys' brains became tuned to the concept of "cat" and others to the concept of "dog."

"One of our most fundamental behaviors is to assign meaning to what's around us," Earl Miller, an associate professor of brain and cognitive sciences who helped lead the study, said in a statement.

"Imagine a young child learning about a cat," he said in a telephone interview. "You have a very long laundry list about what makes a cat. If it has long whiskers, purrs and has fur, it must be a cat. This information gets encoded in single neurons in the brain." The brain has to be able to get this information and put it together quickly. "By encoding the information on a single cell level the brain can automatically and effortlessly categorize everything," Miller said.

Fig. 9

New Vocabulary

412

Neurons: nerve cell

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411

The team at the Massachusetts Institute of Technology found that individual neurons in the monkeys' brains became tuned to the concept of "dog." "at" and others

Changed to a
unknown word

801a

412

701a

"One of our most fundamental tasks is to assign meaning to what's around us," Earl Miller, an associate professor of psychology and cognitive sciences who helped lead the study, said in a statement.

Changed to
known word

"Imagine a young child learning about a cat," he said in a telephone interview. "You have a very long laundry list about what makes a cat. If it has long whiskers, purrs and has fur, it must be a cat. This information gets encoded in single neurons in the brain." The brain has to be able to get this information and put it together quickly. "By encoding the information on a single cell level the brain can automatically and effortlessly categorize everything," Miller said.

Fig. 10

New Vocabulary

412
Neurons: nerve cell

Assign: designate as a task; appoint to a duty; attribute

Cognitive: act or process of knowing

Whiskers: long bristle or hair near an animal's mouth

Encoded: convert into code

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Fig. 11

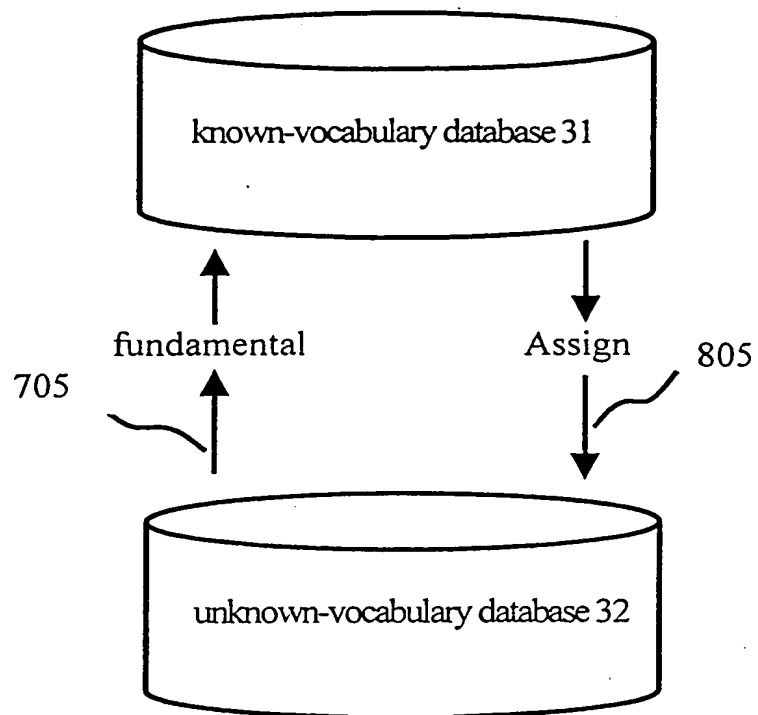


Fig. 12